AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions of claims in the application.

Listing of Claims

1) - 5) (canceled)

6) (previously presented) The system of Claim 11, wherein at least one of said one or more risers further comprises heat insulation means placed on at least the rigid riser part and/or the flexible riser part.

7) (previously presented) The system of Claim 11 wherein at least one of said one or more risers is characterized in that said rigid riser part is held up to the floating support by holding means (9) allowing said pipe to be tensioned under the effect of its own weight.

8) (canceled)

9) (currently amended) A pipe for great water depths allowing transfer of a fluid between a floating support and a point located below and at a distance from the water surface, characterized in that it comprises:

a continuously flexible riser part connected, at one end, to the point located below the surface, and

a rigid riser part connected to the flexible riser part at one end and to the floating support at the second end thereof,

said rigid riser part having a length at least equal to half the water depth, and

further including a catenary anchor system applied to the rigid riser part in the vicinity of ~~the~~ a junction between the flexible riser part and the rigid riser part or in the vicinity of a connector between the flexible riser part and the rigid riser part, the catenary anchor system comprising one or more tendons anchored to a sea bottom,

wherein the pipe is an injection pipe or line and characterized in that the rigid riser part is connected to a source of fluid to be injected and the flexible riser part is connected to a point where the fluid is to be injected.

10) (canceled)

11) (currently amended) A system for producing petroleum effluents in great water depths allowing fluid transfer between a floating support and a source of effluents, characterized in that the system comprises at least one or more risers and/or one or more injection lines, and wherein each of the one or more risers and/or one or more injection lines is a pipe for great water depths (D) allowing transfer of a fluid between a floating support (1) and a point located below and at a distance from the water surface, characterized in that it comprises:

a continuously flexible riser part (7) connected, at one end, to the point located below the surface, and

a rigid riser part (6) connected to the flexible riser part at one end and to the floating support at the second end thereof,

said rigid riser part (6) having a length at least equal to half the water depth,

further comprising a catenary anchor system (10)applied to the rigid riser part in the vicinity of ~~the~~ a junction between flexible riser part (7) and rigid riser part (6) and/or in the vicinity of connector (8) between flexible riser part (7) and rigid riser part (6) and anchored to a sea bottom.

12) (previously presented) The system of Claim 11, further comprising additional means for tensioning the riser(s).

13) (previously presented) A method of designing a pipe in a system as claimed in Claim 11, and for use in a body of water that exerts stresses on the pipe and the floating support due to wave motion, current and wind, the stresses thereby causing motions in the pipe and/or the floating support, and wherein the flexible riser part will have a definable internal pressure resulting from the conveying of the particular fluid, a definable external pressure resulting from the water depth, a definable maximum traction resulting from stresses from the body of water, and a definable maximum allowable curvature, resulting from the composition of the flexible riser part, and wherein the rigid riser part has a defined holding means wherein it can be connected inside or on an edge of the floating member without coming into contact with the floating member, and wherein the rigid riser part has a defined diameter, and wherein the rigid riser part is subject to stresses generated by the weight of the pipe, the suspended weight of the flexible part, hydrodynamic strains, strains induced by displacements of the floating support, inside pressures and outside pressures,

the method comprising the steps of

A) defining the flexible riser part by the steps of

a) determining extreme motions that the floating support would be subjected to in the body of water and assuming that extreme motions at an end of the flexible riser part where it is connected to the rigid riser part are substantially identical to the extreme motions of the floating support, and

b) selecting a point (Ph) along a vertical axis that coaxial to the axis that the rigid riser part will have when the rigid riser part is connected to the floating

support, wherein the first point (Ph) is closer to the bottom of the body of water than to the top of the body of water and determining whether the point (Ph) can serve as the location where the flexible riser part is connected to the rigid riser part, the determining taking into account the extreme motions that the end of the flexible riser part where it is connected to the rigid riser part would be subjected to, as determined by step (a), and further taking into account the inside pressure, the exterior pressure, the nature of the fluid, the maximum traction of the flexible riser part and the maximum allowable curvature, wherein, if point (Ph) cannot serve as the location where the flexible riser part is connected to the rigid riser part, the step (b) is repeated with one or more additional points, until a point is found that can serve as the location where the flexible riser part is connected to the rigid riser part,

B) defining the rigid riser part by the steps of

a) selecting the length of the rigid riser part so that the length is substantially equal to the value of a distance, under equilibrium conditions, between the upper end of the flexible riser and the holding means, so that length of the rigid riser part is at least equal to half the depth of the water depth,

b) selecting the thickness of the rigid riser part by taking into account stresses generated by the weight of the pipe, the suspended weight of the flexible riser part, hydrodynamic strains, strains induced by displacements of the floating support, inside pressures and outside pressures, and

c) checking that the rigid riser part when the rigid riser part is connected by the holding means inside or on an edge of the floating support, the rigid riser part does not come into contact with the floating support, and wherein if the rigid riser part does contact the floating support, steps A) and B) are repeated with different values for the point (Ph).

14) (previously presented) The method of claim 13, wherein steps A) and B) of defining of the flexible riser part and the rigid riser part are carried out under static conditions.

15) (previously presented) The method of claim 14, wherein the outcome of steps A) and B) of defining of the flexible riser part and the rigid riser part under static conditions is checked by means of dynamic dimensioning stages.

16) (previously presented) The method of claim 13, wherein steps A) and B) of defining of the flexible riser part and the rigid riser part are carried out under dynamic conditions.

17) (currently amended) A pipe for great water depths allowing transfer of a fluid between a floating support and a point located below and at a distance from the water surface, characterized in that it comprises:

at least one flexible riser part connected, at one end, to the point located below the surface, and

at least one rigid riser part connected to the flexible riser part at one end and to the floating support at the second end thereof, said rigid riser part having a length at least equal to half the water depth, and

a catenary anchor system applied to the rigid riser part in the vicinity of ~~the~~ a junction between the flexible riser part and the rigid riser part or in the vicinity of a connector between the flexible riser part and the rigid riser part, the catenary anchor system comprising one or more tendons anchored to a sea bottom.

18) (previously presented) The pipe of Claim 17, wherein said pipe further comprises heat insulation means placed on at least the rigid riser part and/or the flexible riser part.

19) (previously presented) The pipe of Claim 17 wherein said pipe is characterized in that said rigid riser part is held up to the floating support by holding means allowing said pipe to be tensioned under the effect of its own weight.

20) (previously presented) The pipe of Claim 17 wherein the pipe is an injection pipe or line and wherein the rigid riser part is connected to a source of fluid to be injected and the flexible riser part is connected to a point where the fluid is to be injected